

**CLAIMS**

1        1. A method of making accessible context-sensitive data reported by a tool to a  
2 tool host, the method including:

3        providing a removable listening device to monitor a wired communications  
4        channel between one or more tool hosts and one or more tools;  
5        recording report and report trigger definitions sent by the tool hosts to the tools;  
6        matching a first triggered report from the tools with the report and report trigger  
7        definitions to generate a first context-insensitive report before processing a  
8        second triggered report;  
9        outputting the first context-insensitive report in a field tagged format.

1        2. The method of claim 1, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a SECS protocol.

1        3. The method of claim 1, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a HL-7 protocol.

1        4. The method of claim 1, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a DIACOM protocol.

1        5. The method of claim 1, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a CANS-compliant protocol.

1        6. The method of claim 1, wherein the report trigger definitions further include  
2 time periods that trigger reporting.

1        7. The method of claim 1, wherein the field tagged format is XML.

1        8. The method of claim 1, wherein the field tagged format is HTML.

1        9. The method of claim 1, wherein the field tagged format is comma separated  
2 values.

1        10. The method of claim 2, wherein the field tagged format is XML.

1 11. The method of claim 2, wherein the field tagged format is HTML.

1 12. The method of claim 2, wherein the field tagged format is comma separated  
2 values.

1 13. The method of claim 1, wherein the removable listening device is coupled to  
2 the wired communications channel by a connector inserted in the wired  
3 communications channel.

1 14. The method of claim 1, wherein the removable listening device is physically  
2 coupled to the wired communications channel.

1 15. The method of claim 1, wherein the removable listening device is  
2 magnetically coupled to the wired communications channel.

1 16. A method of dynamically annotating tool status reports, the method  
2 including:

3 providing a removable listening device to monitor wired communications  
4 between one or more tool hosts and one or more tools;

5 recording report definitions sent by the tool hosts to the tools, said report  
6 definitions defining tool status information to be reported upon happening of a  
7 trigger;

8 recording report trigger definitions sent by the tool hosts to the tools, said report  
9 trigger definitions defining events that trigger reporting; and

10 matching a first triggered report from the tools with the report and report trigger  
11 definitions to generate a first context-insensitive report before processing a  
12 second triggered report, the reports not being accompanied by the report or report  
13 trigger definitions.

1 17. The method of claim 16, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a SECS protocol.

1 18. The method of claim 16, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a HL-7 protocol.

1 19. The method of claim 16, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a DIACOM protocol.

1 20. The method of claim 16, wherein the report and report trigger definitions and  
2 the triggered report are compliant with a CANS-compliant protocol.

1 21. The method of claim 16, wherein the report trigger definitions further include  
2 time periods that trigger reporting.

1 22. The method of claim 16, further including outputting the first context-  
2 insensitive report in a field tagged format.

1 23. The method of claim 22, wherein the field tagged format is XML.

1 24. The method of claim 22, wherein the field tagged format is HTML.

1 25. The method of claim 22, wherein the field tagged format is comma separated  
2 values.

1 26. The method of claim 16, wherein the removable listening device is coupled to  
2 the wired communications channel by a connector inserted in the wired  
3 communications channel.

1 27. The method of claim 16, wherein the removable listening device is  
2 physically coupled to the wired communications channel.

1 28. The method of claim 16, wherein the removable listening device is  
2 magnetically coupled to the wired communications channel.

1 29. A method of migrating one or more processes from a tool control host in  
2 communication with one or more tools to one or more distributed processors, the  
3 method including:

4 providing one or more intercept devices including logic to retain tool status  
5 information from one or more tools and to retain pending requests for tool status  
6 information from one or more tool control hosts, said intercept device positioned  
7 between and in communication with the tool control hosts and the tools;

moving one or more processes from the tool control hosts to one or more distributed processors, said distributed processors in communication with the intercept device;

routing requests for tool status information from the tool control hosts and the distributed processors to the intercept device; and

satisfying the requests for tool status information using the retained tool status information, the retained pending requests for tool status information, and one or more new requests from the intercept device to the tools for otherwise unavailable tool status information.

30. The method of claim 29, wherein the intercept device monitors one or more events reported by the tools, further including identifying the retained tool status information that is rendered stale by the reported events and expiring the stale tool status information.

31. The method of claim 29, wherein the intercept device monitors one or more events reported by the tools and determines whether collection of tool status information should be modified in response to the reported events.

32. The method of claim 29, wherein the intercept device receives tool status information received from the tools, further including determining appropriate modifications to the tool status information received, and substituting modified tool status information when satisfying the requests for tool status information.

33. The method of claim 29, wherein the tool control hosts include comprehensive factory management processes and the distributed processors include limited processes for less than comprehensive factory management processes.

34. The method of claim 29, wherein the tool control hosts include legacy programs to control tools and the distributed processors include updated comprehensive factory management process logic.

35. The method of claim 29, wherein the distributed processors include logic to schedule tools.

1 36. The method of claim 29, wherein the distributed processors include logic to  
2 manage yield from tools.

1 37. The method of claim 29, wherein the distributed processors include logic to  
2 manage logistics of moving materials among tools.

1 38. The method of claim 29, wherein the distributed processors include logic to  
2 modify production process steps based on deviations from plan in prior process steps.

1 39. A method of screened response to requests for tool status information from a  
2 variety of sources, the method including:

3 providing one or more intercept devices including logic to retain tool status  
4 information from one or more tools and to retain pending requests for tool status  
5 information from one or more tool hosts, said intercept device positioned  
6 between and in communication with the tool hosts and the tools;

7 receiving a request for tool status information;

8 satisfying the request for tool status information using the retained tool status  
9 information, the retained pending requests for tool status information, and one or  
10 more new requests from the intercept device to the tool or the external sensors for  
11 otherwise unavailable tool status information.

1 40. The method of claim 39, wherein the tool hosts include one or more one tool  
2 control hosts and one or more distributed processors.

1 41. The method of claim 40, wherein the tool control hosts include  
2 comprehensive factory management processes and the distributed processors include  
3 limited processes for less than comprehensive factory management processes.

1 42. The method of claim 40, wherein the tool control hosts include legacy  
2 programs to control tools and the distributed processors include updated  
3 comprehensive factory management process logic.

1 43. The method of claim 40, wherein the distributed processors include logic to  
2 schedule tools.

1 44. The method of claim 40, wherein the distributed processors include logic to  
2 manage yield from tools.

1 45. The method of claim 40, wherein the distributed processors include logic to  
2 manage logistics of moving materials among tools.

1 46. The method of claim 40, wherein the distributed processors include logic to  
2 modify production process steps based on deviations from plan in prior process steps.

1 47. The method of claim 39, further including monitoring one or more events  
2 reported by the tool and determining which tool status information is stale due to the  
3 events.

1 48. The method of claim 39, further including receiving one or more events  
2 reported by the tool and determining whether collection of tool status information  
3 should be modified due to the events reported.

1 49. The method of claim 39, further including determining appropriate  
2 modifications to the tool status information received from the tool and substituting  
3 modified tool status information when satisfying requests for tool status information.

1 50. The method of claim 39, further including determining whether the request  
2 for tool status information would be satisfied by the tool or by external sensors  
3 coupled with the tool.

1 51. The method of claim 50, further including monitoring one or more events  
2 reported by the tool and determining which tool status information is stale due to the  
3 events.

1 52. The method of claim 50, further including receiving one or more events  
2 reported by the tool and determining whether collection of tool status information  
3 should be modified due to the events reported.

1 53. The method of claim 50, further including determining appropriate  
2 modifications to the tool status information received from the tool and substituting  
3 modified tool status information when satisfying requests for tool status information.